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## Abstract

Development efforts in lower income countries generally aim to improve the income and nutrition of rural farming households. Frequently development programs train farmers and give them livestock so that those farmers in turn train other farmers and pass on the livestock in the form of offspring. The paper examines the effects of training and facilitation of farmers on livestock development by discussing the differences in performance indicators of three farmer groups. The first group received training and support from a development program, the second group received less training and support from the program and the third group did not receive training or support.

Results show that in some ways training and facilitation is of advantage to the farmers, but sometimes other factors such as the farmers' resources are limiting to the farmers' progress.

## Keywords

Farmer to farmer extension, poverty reduction, rural livelihoods

## Disciplines

Agriculture | Animal Sciences

## Comments

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# Effects of training and facilitation of farmers in Uganda on livestock development

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## Abstract

Development efforts in lower income countries generally aim to improve the income and nutrition of rural farming households. Frequently development programs train farmers and give them livestock so that those farmers in turn train other farmers and pass on the livestock in the form of offspring. The paper examines the effects of training and facilitation of farmers on livestock development by discussing the differences in performance indicators of three farmer groups. The first group received training and support from a development program, the second group received less training and support from the program and the third group did not receive training or support.

Results show that in some ways training and facilitation is of advantage to the farmers, but sometimes other factors such as the farmers' resources are limiting to the farmers' progress.

**Key words:** Farmer to farmer extension, poverty reduction, rural livelihoods

## Introduction

Farmer training is an important tool widely utilized by development programs in developing countries (Birkhaeuser et al 1991, Van den berg et al 2007, Delia et al 2008). In Uganda, government and privately run extension services as well as non- governmental organizations offer training packages to their farmers. Training procedures vary from one or two day workshops and seminars, on farm training and demonstration, to field visits.

Many rural households in Africa have some experience in rearing animals, especially small livestock such as goats and chickens, which are ubiquitous in the region (Adams et al 2010). Training in animal management is desirable to farmers as they are often eager to improve their knowledge and practices and to have their knowledge affirmed by professionals. Therefore, training sessions are usually well attended. Trainings are an avenue for development workers to pass on new information and to correct miss-conceptions concerning animal management, as well as re-assure the development workers that the animals will receive adequate care. Organizations that give animals to farmers usually require that the farmers receive some training before they are given the animals.

One of the popular extension strategies in developing countries is a 'farmer to farmer approach'. Farmers chosen to be model farmers are selected based on criteria that is determined by the development organization. Usually the criteria include qualities such as; education level, leadership position, success at the enterprise, and personality traits (Muok et al 2001). The model farmers are trained and given inputs such as animals and tools. Other farmers are encouraged to learn from the model farmer and the model farmers are required to encourage and train their peers by generously sharing their knowledge (Muok et al 2001).

Volunteer Efforts for Development Concerns (VEDCO), a non- governmental organization in Uganda and the Centre for Sustainable Rural Livelihoods (CSRL) at Iowa State University (ISU) in the United States of America have set up a livestock development program in Kamuli district, Uganda. The CSRL/VEDCO livestock development program seeks to help resource poor farmers in that area to improve their household income and nutrition and hence their

livelihoods (CSRL 2010). In this program, farmers receive training in animal management before they are given livestock. The farmers who receive livestock are expected to train other farmers in their farmer groups and pass on a predetermined number of offspring when the animals they receive reproduce.

VEDCO utilizes a version of the ‘model farmer’ extension strategy as well. Certain farmers are chosen, trained and given some inputs. These Rural Development Extensionists (RDEs) volunteer to assist other farmers to run their livestock enterprises and Community Nutrition and Health Workers (CNHWs) volunteer to assist fellow farmers concerning health and nutrition issues (CSRL 2008).

This study seeks to examine the effects of training and facilitation of farmers on livestock development. The paper discusses the differences in performance indicators between three farmer groups; Group 1 members were the RDEs and CNHWs, most of whom have received animals and training from the CSRL/VEDCO program. Group 2 members had received animals and some training from members of Group 1 or from the program; Group 3 members had not received animals or special training.

Although other aspects of farmers’ livelihoods may improve when they receive animals and training, such as improved social standing in community which opens for them leadership and networking opportunities (Randolph et al 2007), we have restricted the paper to performance indicators that directly relate to income and nutrition.

**Data collection and analysis**

Data were collected from all the sub counties in Kamuli District, Uganda where the CSRL/VEDCO program currently operates. Open ended questions were used to guide personal interviews which were carried out as informal discussions between the researcher and farmers in the VEDCO/CSRL livestock development program. A total of 113 farmers who reared pigs, goats and/or chickens took part in the interviews at their homes. Farmers were categorized into 3 groups, Group 1 were RDEs and CNHWs, most of whom had received animals and training from the program; Group 2 had received animals and some training from members of Group1 or from the program, included in this group were farmers who had reared animals specifically for sale, as part of an earlier project. Group 3 members had not received animals or special training from the program.

There were 41 farmers in group 1, 33 farmers in group 2 and 39 farmers in group 3. The interviews were conducted in the local language and recorded so that the researcher could fill in the questionnaires at the end of the day. This was done to mimic a visit by an advisor that the farmers would ordinarily receive, and ensured that the farmer was at ease, and not disrupted by the researcher constantly having to fill the questionnaire. Each interview lasted approximately 40 minutes. The data were analyzed using descriptive statistics like frequency tables to summarize the data and cross tabulations to determine relationships between variables. Relationships between variables were tested by Chi square tests using Predictive Analytics Software (PASW).

**Results and discussion**

**Size of livestock enterprise**

The size of a livestock enterprise is often related to its profitability and the bigger the livestock operation the lower the cost of operation per animal (Delgado et al 2008). Training and facilitating farmers did not impact the size of the farmers’ livestock enterprises. There was no difference in the total number of pigs, goats or chickens reared by members of group 1, group 2 or group 3. Most of the farmers in all the groups owned 1-5 pigs, 1-5 goats and 1-10 chickens (Table 1).

**Table 1.** Percentage (%) of farmers of each group who rear the different species of livestock

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Species	Number of animals	Group 1, %	Group 2, %	Group 3, %
Pigs	0	48.1	36.4	59.0
	1-5	41.4	51.5	41.0
	6-10	7.9	9.1	0.0
	>10	2.6	3.0	0.0
Goats	0	13.3	7.1	7.1
	1-5	69.9	75.0	75.1
	6-10	13.5	14.3	17.8
	>10	3.3	3.6	0.0
Chickens	0	7.3	17.2	16.2
	1-10	46.3	58.7	60.3
	11-50	29.3	24.1	18.1
	>50	17.1	0.0	5.4

Uganda, like many other poorer African countries suffers from under-production and under-consumption of animal source foods (Speedy 2003). The country’s livestock production just about supplies domestic demand for meat, there are no significant meat exports but the country is strategically placed to supply the regional market (King 2002). There is need to increase the number as well as the productivity of animals in order to increase profits and to have enough animals so that the farmers can afford to slaughter some for food. Currently, the farmers do not often consume their livestock because they cannot afford to sacrifice the few that they have (Ampaire et al 2010).

Some farmers were interested in increasing the number of animals they owned. When asked about their animal breeding plans, some farmers planned to increase the size of their herd, while some planned to sell the young since they could not afford to keep many animals. Among the advice given to VEDCO to better meet the farmers’ needs, 12.8% of the farmers asked VEDCO to provide loans and inputs so that the farmers are able to put to use the knowledge they had acquired during trainings.

Animal health

To achieve improved nutrition and higher income the animals have to be kept healthy. Disease reduces animal productivity and market access (Maitima et al 2010, King 2002) Many farmers (40%) decide the price to sell their animals based on the appearance of the animal; healthy looking animals fetch better prices (Ampaire et al 2010). All farmers irrespective of group were concerned about the animal disease. When asked what aspects of animal production they felt they needed more training in, 47.7% of all the farmers mentioned training in disease management and treatment (Table 2).

Table 2. Areas of animal production where the farmers felt they needed more training (% per group)

Responses	Group 1	Group 2	Group 3	% of total
Disease management and treatment	47.7	56.6	38.8	47.7
Improved animal management (intensive animal management, management of upgraded animals)	38.6	33.4	52.8	40.3
Animal feeding, mixing of cheap feed	13.7	10.0	8.4	12.0

There was no difference between the groups in disease occurrence among goats and chickens in the six month period preceding the study. However, fewer members of Group1 than Group2 or Group 3 had sick pigs in the six month period preceding the study (P<0.05). This is probably because more farmers who received animals from the program received pigs not goats or chickens, therefore farmers have had more training in pig management. Although more members of Group 2 had received pigs than members of Group 1, members of Group 1 had the pigs for a longer period and therefore were more experienced and better trained in pig management than members of Group 2. VEDCO carries out follow up visits and other farmer support activities, therefore the farmers who had received animals for the longest time are likely to have had their learning reinforced through these activities.

Record keeping

Record keeping is an important tool in livestock production and is important for the farmer to be able to evaluate the performance of the enterprise and as a basis for management decisions such as animal selection for breeding. Record keeping at the farm level is also important for research, policy development and extension (Abegaz et al 2008). Lack of farm records is a limitation to livestock development in poor countries (Ergano and Nurfeta 2006). The lack of records has been attributed to low levels of education of the farmers. In this study, more members of Group 1 (61.6%) had more than primary level education, compared to members of Group 2 (28.1%) and Group 3 (26.3%) (P<0.01) (Table 3).

Table 3. Farmers’ education level per group

Education level	Group 1	Group 2	Group 3
Primary	30.7	53.1	65.8
Secondary	59.0	28.1	15.8
Junior	2.6	0.0	10.5
Other	5.1	18.8	7.9
None	2.6	0.0	0.0

Record keeping was associated with education level (P<0.01),in that all the farmers who had no formal education had no records irrespective of farmer group and more members of Group 1 than Group 2 and Group 3 thought it was important to keep records (P=0.05). There was no difference however in the reasons why records were not kept by farmers of different education levels and only 4.1% of the farmers did not keep records because they did not know how to write (Table 4).

Table 4. Reasons why farmers did not keep records (% responses per group)

Reason	Group1	Group 2	Group 3	% of total
I have not taken the time	20.0	30.5	29.5	27.4
I do not need records ( small operation, local animals, no expenses to track)	26.7	26.0	20.5	24.7
I do not understand the value of keeping records	13.3	13.0	26.5	19.1
I do not know how	6.7	8.7	23.5	15.1
Others (started and gave up, got discouraged)	20.0	17.5	0.0	9.6
I cannot write	13.3	4.3	0.0	4.1

Many farmers at each education level thought it was important to keep records (P<0.01). These findings seem to suggest that lack of education is not the major reason why farmers do not keep records. We found that the main reasons for not keeping records as shown in Table 4 were; farmers had just not taken the time to keep records (27.4%), farmers thought that they did not need to keep records because they had only a few animals or had a low input system (24.7%); they do not understand the value of keeping records (19.1%) and they did not know how to keep records (15.1%). Although more members of Group1 than Group 2 or Group 3 of the same formal education level thought it was important to keep records (P<0.01), more members of Group 2 than Group1 or Group 3 of the same formal education level kept records (P<0.05). This attests to the nature of livestock rearing in rural households where under subsistence farming, livestock rearing is not considered to be a business enterprise. Probably if the farmers kept records they would be able to see trends in their enterprise and make strategic plans to improve where they are not doing well which would help them to see their enterprise as a business venture. Members of Group 1 had been taught the importance of record keeping in their training but they did not act on the knowledge as much as members of group 2. This is probably because Group 2 had some members who were commercially oriented and therefore saw their livestock enterprise as a business. Development workers need to work more with the farmers by teaching them the value of farm records and showing them how to do it. The assumption that rural farmers are not educated and therefore not able to keep records limits efforts in this regard, thus undermining livestock development. Almost all the farmers who had received animals from the program kept a visitor’s book because the program

emphasized that they do. The same could be true for farm records if their importance was stressed to the farmers by the program. Some farmers only kept records for the animals they had received from the program and not for their other animals because they felt that they were not accountable to anyone for their other animals.

**Livestock consumption and sale**

More members of group 1(82.9%) than group2 (61.3%) or group 3 (42.1%) felt that their households consumed enough livestock products ( $P<0.01$ ). Also, more members of group 1(97.6%) than group2 (84.8%) or group 3 (79.5%) had sold some of their animals or livestock products ( $P<0.05$ ).The higher consumption of livestock by group 1 members could be attributed to the fact that some members of group 1 are CNHWs who have received training in proper nutrition and volunteer to assist their fellow villagers to properly feed malnourished children (Mazur 2010). Eating and serving guests was by far the major reason why members of group 1 reared chickens whereas members of group 2 and group 3 reared them both for money and to eat ( $P<0.05$ ) (Table 5).

**Table 5.** Reasons for rearing chicken (% per group)

Reason	Group 1	Group 2	Group 3
Income	25.9	30.1	23.1
Petty cash for daily needs	24.1	32.0	32.6
Eating and serving guests	43.2	33.1	34.7
Easy to raise and quick to sel	5.1	2.8	9.6
Exchange for goats	1.7	2.0	0.0

Probably more members of group 1 have sold livestock than members of Group 2 and Group 3 because they have had more training from the program hence they likely have embraced the concept of rearing animals for sale when the animals mature instead of rearing animals as a ‘living savings account’ like it is commonly practiced in developing areas (Randolph et al 2007). They have also had the animals from VEDCO for a longer time.

**Conclusion and recommendations**

- Farmer training and facilitation did not have an impact on the size of livestock enterprise. The main limitation to expansion of the farmers’ livestock enterprises was availability of resources to be able to manage the animals.
- Farmer training and support seem to have had an impact on animal health, livestock consumption, and sale. Farmers who had received more training and support had less disease in pigs in the six months preceding the study than those who had not been trained or who had the animals for a shorter period of time. The farmers who had more training and support also consumed more and sold more livestock.
- Probably because of the small size of livestock enterprises which were not run as businesses, many farmers did not see the need or the value of record keeping.
- Finding ways to pool resources could help the farmers to overcome the limitation of inadequate resources so that they are in a better position to rear more animals and hence have more to eat and more to sell. The program could also explore the possibility of extending micro credit to the farmers.
- Since record keeping is an important tool for livestock development, the program needs to encourage the farmers to keep records. Keeping records might encourage the farmers to see the profit potential of their enterprises and begin to manage them as businesses. For the farmers who cannot write, other members of the household such as children who attend school might be able to help.

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